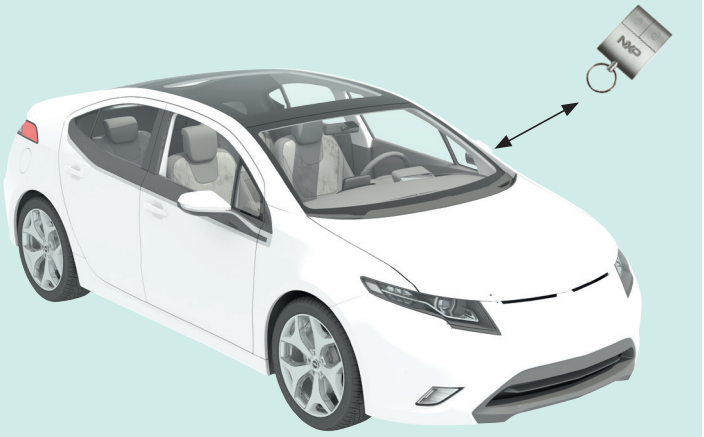


NXP remote keyless entry transponder family PCF7961

Fully integrated remote keyless entry solutions

Ideal for today's advanced vehicle access applications, the PCF7961 security transponder, microcontroller and radio transmitter IC fits compact key designs and ensures cost-effective solutions.

Features

- Single-chip security transponder and keyless entry solution with on-chip UHF transmitter
- PCF7936/37 or PCF7938 (96-bit) family compatible transponder operation
- Low-power RISC programmable device operation
- On-chip, PLL-based UHF transmitter (315/434 MHz)
- Programmable ASK/FSK modulation characteristics
- Up to seven command button inputs
- On-chip memory
  - 8/16 Kbytes of E-ROM
  - 512 bytes of EEPROM, 192 bytes of RAM
- Single lithium cell operation (2.1 to 3.6 V)
- Package: TSSOP20 or LSP

Benefits

- Highly integrated for minimum board space and low bill of materials
- Easy application
- Low power consumption

Today's car buyers expect the convenience of a remote keyless entry system. NXP continues to reduce system cost for keyless entry and immobilization systems with the highly integrated PCF7961 family. Combining a security transponder, a RISC controller and a UHF transmitter, this family delivers a true single-chip solution. Based on NXP's low-power 8-bit microcontroller core, the family performs command button scanning and data framing according to application requirements. RISC timing is derived from an on-chip, low-tolerance RC oscillator with a programmable system clock as fast as 2 MHz. Generation of "keyless entry code hoping" can employ the hard-wired transponder calculation unit or any software-based algorithm, while synchronization can be achieved via the contactless transponder interface.

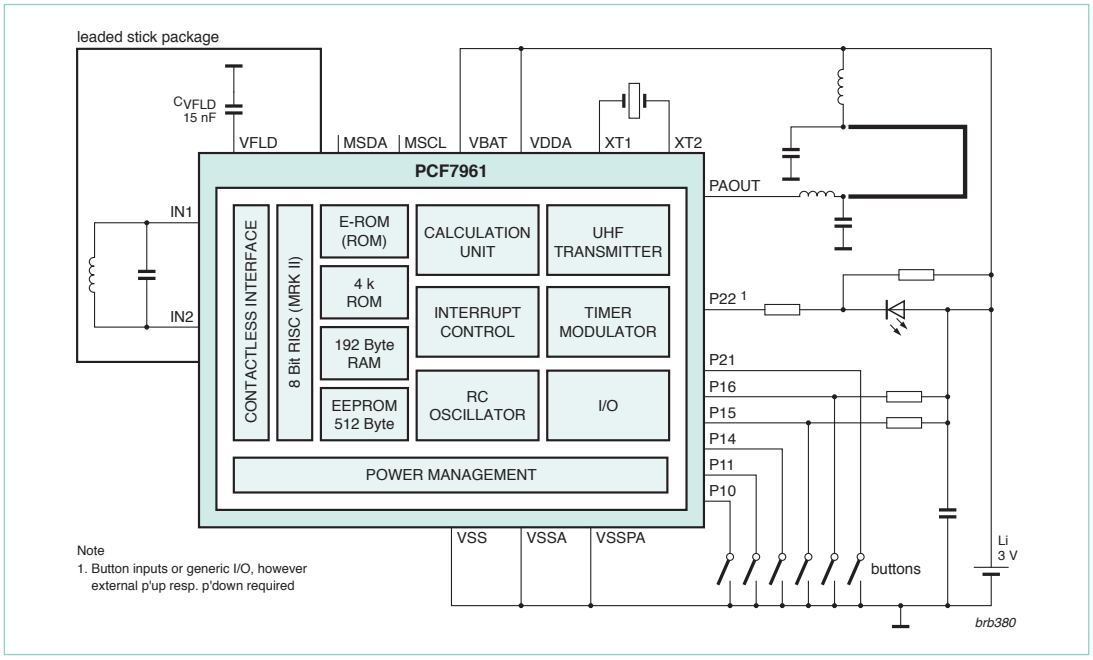
With the exception of a reference crystal and loop-antenna matching circuitry, the on-chip UHF transmitter requires no other external components. The RISC controller directly controls the UHF transmitter and supports ASK and FSK modulation with data rates up to 20 kbits/s (Manchester).

Powered by an external, single-cell lithium battery, the device features a power-down mode, which minimizes quiescent current.

The programmable power amplifier stabilizes the output power to minimize carrier, over-temperature and battery-voltage variations. Security transponder operation is compatible with the PCF7936/37 & PCF7938 families, for simple system upgrades. The transponder requires no battery supply, so full operation is guaranteed, even when the battery is low.

A complete suite of on-chip memory is available. For customer application software, up to 16 Kbyte of EROM are provided. For extended data storage, the device offers 512 bytes of on-chip EEPROM, with access control defined by the application.

PCF7961 block diagram



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